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THE THIEF ANTS, *SOLENOPSIS MOLESTA* GROUP, OF FLORIDA (HYMENOPTERA: FORMICIDAE)

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ABSTRACT

The workers, males and females of 2 new species of thief ants, *Solenopsis abdita* and *S. tonsa*, are described. The female of *S. nickersoni* Thompson is described for the first time, and the 1945 discovery and 1980 rediscovery of *S. corticalis* Forel in Florida are reported. The workers of all 8 Florida species are figured and placed in a taxonomic key.

RESUMEN

Las obreras, machos y hembras de 2 nuevas especies de hormigas ladronas, *Solenopsis abdita* y *S. tonsa* son descritas. La hembra de *S. nickersoni* Thompson es descrita por primera vez, y el descubrimiento en 1945 y redescubrimiento en 1980 de *S. corticalis* Forei son anumciados. Las obreras de todas las 8 especies de la Florida están ilustradas y puestas en una clave taxonómica.

The genus *Solenopsis* is essentially cosmopolitan, living in all but the coldest parts of the world. The genus was divided by Creighton (1930) into three subgenera: *Solenopsis*, *Euophthalma* and *Diplorhoptrum*. The painful stings inflicted by members of *Solenopsis* (*Solenopsis*) have attracted public attention as the red imported fire ant *Solenopsis invicta* Buren continues to spread in the southern United States.

While not endearing themselves to the general public, the genus *Solenopsis* is also no favorite of ant taxonomists. Creighton (1950) grumbled, "The student of North American ants may count himself fortunate that so few species of this difficult genus occur in our latitudes". He pointed out that the worker caste in *Solenopsis* has undergone considerable convergence, making species identification difficult. Much of this convergence has occurred in *Solenopsis* (*Diplorhoptrum*).

The taxonomic position of *Diplorhoptrum* itself is subject to argument. Ettershank (1966), in his revision of the Solenopsidini, synonymized *Diplorhoptrum* under *Solenopsis*. Baroni-Urbani (1968) resurrected the group and gave it full generic status. Unfortunately, he based his determination on the male genitalia of the common European species *Diplorhoptrum fugax* (Latreille), without knowledge of the nearctic and neotropical faunas. Creighton suspected that male and female morphology might be the only reliable source of characters on which to base *Diplorhoptrum* taxonomy, but the fact remains that few of the males are known. Retaining *Diplorhoptrum* as a subgenus might be acceptable simply for convenience: as a group *Diplorhoptrum* species are usually small and monomorphic as opposed to the larger, polymorphic, epigeic fire ants (Creighton 1930). However, in light of Barry Bolton's review of the *Solenopsis* genera (1987), I have abandoned the middle-of-the-road subgeneric position (Thompson 1982). Bolton presents convincing arguments that the morphological differences among the *Solenopsis* groups will not bear more than species-specific weight; the subgenus *Dip-*

lorhoptrum should be returned to synonymy. The thief ants discussed in this paper are taxonomically designated as *Solenopsis* species.

An additional taxonomic problem has been the widespread tendency to identify every North American small yellow thief ant as *S. molesta*. This is probably because *S. molesta* is the species reported to be an economic pest (Smith 1965). As a result, much of the literature concerning the group is based on misdeterminations. The confusion is increased by the nomenclature of thief ants: *S. molesta* has five synonyms.

Creighton (1950) listed 12 taxa of *Diplorhoptrum* for North America. The most recent compilation (Smith 1979) also contains 12 thief ant taxa: 10 from Creighton's original list, one species renamed, and one placed in synonomy. Smith (1979) records at least one thief ant species from each of the lower 48 states with *S. molesta* (Say), the most widespread species, reported from 30 states. The species reported from Florida are: *S. molesta* (Say), *S. pergandei* Forel, *S. picta* Emery, *S. tennesseensis* Smith, *S. texana* Emery and *S. truncorum* Forel (Smith 1979).

Most of the information on thief ants indicated that they were present in relatively small numbers in the soil, and usually in close association with nests of larger ants. With the use of baited traps, however, thief ants were found in large numbers with a wide distribution in the soil (Thompson 1980). These ants were present in all but extremely hydric habitats in Florida. I found that, despite their name, they were most often freeliving and highly predatory. They readily killed and consumed colony-founding imported fire ant queens and the larvae of the sugar cane root stalk borer, *Diaprepes abbreviatus* (L.) (Thompson 1980). This indicates that thief ants are important subterranean predators and may have potential as biological control agents.

In this paper two new thief ant species are described, the previously unknown female of a known species is described and all Florida species are figured and placed in a taxonomic key.

Methods and Materials

Because the largest Florida thief ant worker is ca. 1.8 mm long, it is imperative that anyone wishing to study this group employ a microscope with an ocular micrometer and at least 50X magnification. I also recommend study of the figures before using the key to fix in the mind a "Gestalt" image of the various species; something nearly impossible to picture in words.

Specimens for this study were collected from various Florida locations. The following measurements were made:

HL — length of head in full face view (excluding mandibles)
HW — width of head
SL — length of antennal scape (not including basal knob and stalk)
FL — funiculus length (males only)
WL — Weber's length—length of thorax in lateral view from anterior of pronotum to rear edge propodeum
EL — greatest eye length

Indices used were calculated as follows:

CI — cephalic idex = (HW x 100)/HL
SI — scape index = (SL x 100)/HL
HTL — HL + WL (Highly variable gaster length not measured. This measurement was used in place of total body length).

Specimens were compared with types at the U.S. National Museum of Natural History, Washington, D.C., and the Museum of Comparative Zoology (MCZ) at Harvard University, Cambridge, Massachusetts.

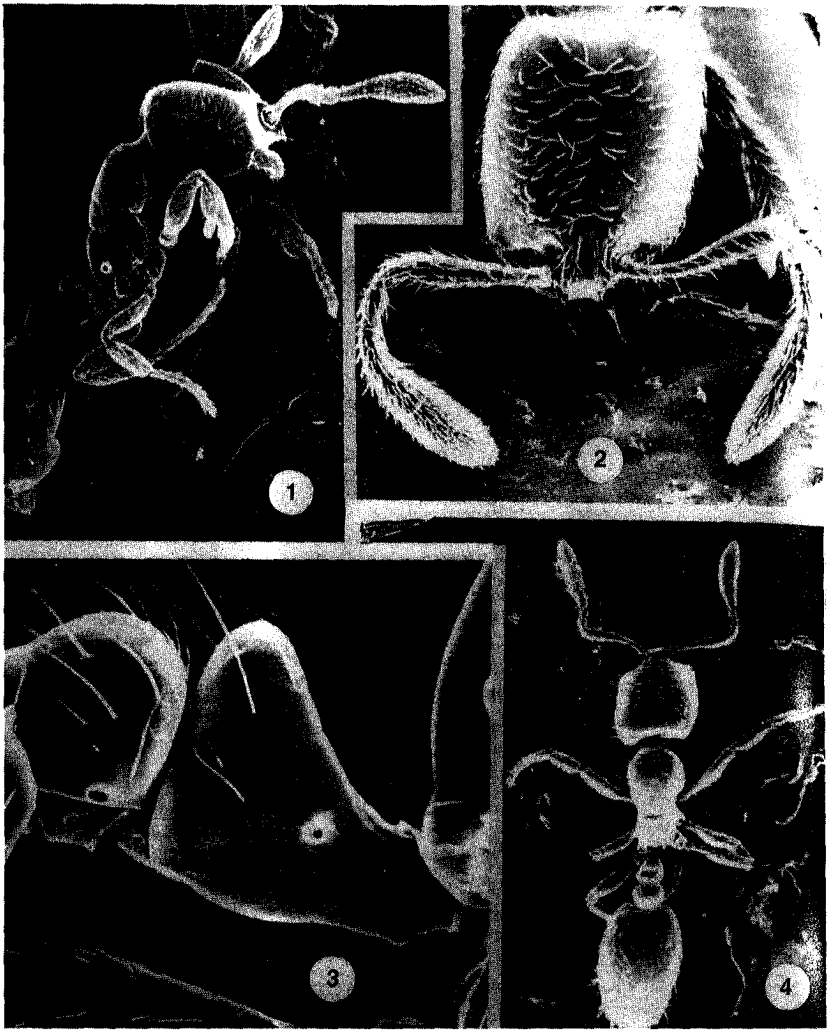

Plate 1. Worker of *S. abdita* n. sp. (90X, 140X, 460X, 50X)

The micrographs in this paper were made with an Hitachi scanning electron microscope. Difficulties were encountered using the standard black carbon cement because of the small size of the ants. Split-second timing was needed, otherwise the cement dried before the insect was positioned or the specimen disappeared under the cement. These problems were finally overcome with double-stick white labels: the ants were arranged on the label and pushed into the adhesive.

A second SEM problem was charging, although the specimens had been double-gold-coated at 3 min./coat with a break between coats to dissipate heat. This problem was finally solved by putting the ants on the sticky labels and smearing spots of carbon glue

near the specimens into contact with tarsi or other body parts. This method increased conduction and charging was reduced.

Key to workers of Florida thief ant species

1. Petiolar node (Fig. 23) placed somewhat anterior to the petiolar-postpetiolar juncture so that the petiole has a distinct slender posterior peduncle; body either uniformly dark brown or with lighter reddish brown head and/or thorax; arboreal ..... *picta* Emery
1′. Petiolar node placed near the petiolar-postpetiolar juncture (Fig. 15); body usually pale yellow, or if dark, then the appendages are pale; subterranean (except one yellow arboreal species) 2
2(1′). Head, thorax and gaster dark brown; appendages pale brown to pale yellow; (Fig. 13-16) ..... *nickersoni* Thompson
2′. Usually entire body pale yellow to somewhat darker yellow, but one species (*carolinensis*) often with moderate infuscation on head and gaster 3
3(2′). Eyes small (length ≤ 0.02 mm), most of eye area the same color or only slightly darker than the rest of the head; head with distinct median strip free of punctures and hairs which is weakly impressed forming longitudinal furrow (Fig. 3) 4
3′. Eyes normal size (length at least 0.03 usually 0.04 mm); eye area mostly brown to black; head without median strip free of hairs and punctures 5
4(3). Head narrow, elongate (Fig. 26) and flat (HI 72-81) (Fig. 25); very small species (HTL 0.61-0.69 mm) ..... *tennesseensis* M. R. Smith
4′. Head proportionately not as narrow, only slightly oblong and convex ventrally (HI 89-94) (Fig. 29); medium-sized species (HTL 0.76-0.83 mm ..... *tonsa* n. sp.
5(3′). Large species (HTL 0.84-1.14 mm); head nearly square (HI 91-100) with numerous (ca. 200) hairs arising from punctures which, from side front, lie in parallel rows (Fig. 18); head in profile with great depth due to very convex ventral side ..... *pergandei* Forel
5′. Smaller species (HTL 0.64-0.80); head clearly oblong (HI 82-92) with far fewer (< 100) hairs which, from side front, do not lie in parallel rows; head in profile not greatly convex ventrally 6
6(5′). Eye longer than broad, nearly oval, but wider anteriorly giving a slightly almond shape; eyes with one black facet anteriorly followed by a central yellow area with a second smaller black facet at the posterior eye corner; body entirely light brownish yellow or with gaster slightly infuscated; arboreal ..... *corticalis* Forel
6′. Eye nearly circular, facets light-colored, and surrounded by black line, or by uniform black areas that are not concentrated at the anterior and posterior eye corners; body yellow to brownish yellow with or without infuscation; subterranean 7
7(6′). Eye normal sized (0.04 mm); body yellow to brownish-yellow; promesopleural suture, below mesothoracic spiracle, only slightly darker than rest of thorax and shaped like a half-boomerang, the tapered dorsal end of the suture extends posteriorly but does not encircle the spiracle; thorax, in profile, with flattened area before and after the metanotal groove (Fig. 5, but not completely aligned) ..... *carolinensis* Forel
7′. Eye smaller (0.03-0.03 mm); body clear yellow; promesopleural suture somewhat hourglass-shaped with a reddish-orange outline which extends to encircle the spiracle; dorsum of thorax smoothly curved, not flattened before and after the metanotal groove (Fig. 1) ..... *abdita* n. sp.

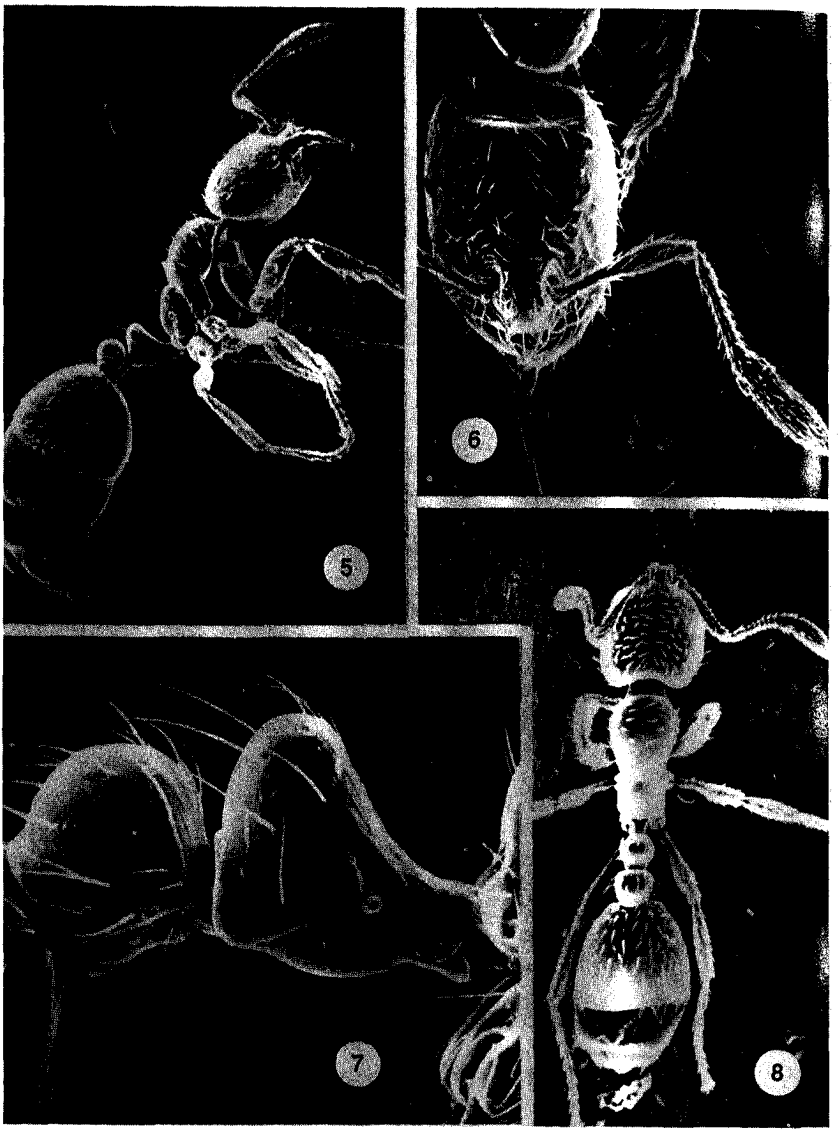

Plate 2. Worker of *S. carolinensis* Forel (60X, 130X, 290X, 56X)

Solenopsis tonsa NEW SPECIES
Fig. 29-32

DESCRIPTION OF WORKER

DIAGNOSIS—Workers pale yellow and densely covered with short hairs. Head strongly marked with prominent punctures but with a clear median strip free of punctures and hairs. Eyes pale and small. Most similar to *pergandei* and *tennesseensis*, but hairs on

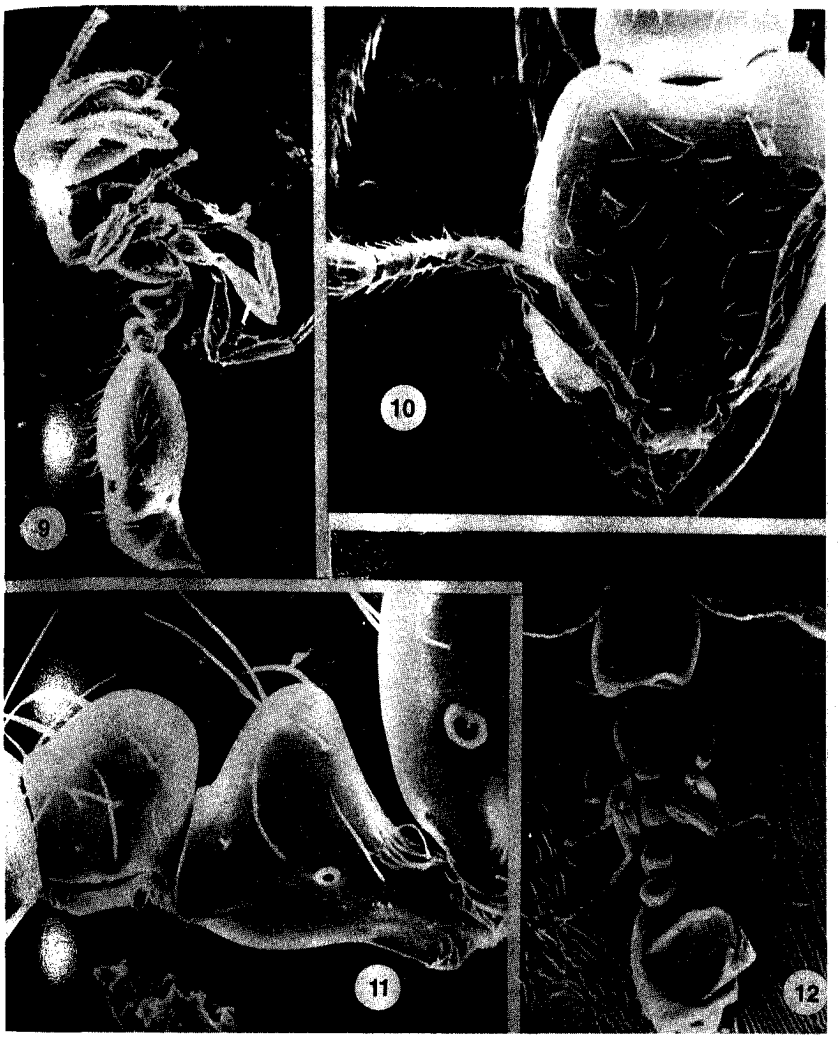

Plate 3. Worker of *S. corticalis* Forel (90X, 200X, 360X, 65X)
Photos by T. C. Carlysle

thorax are as dense as on the head and all of the same length, not of various engths or longer than those on the head. Although similar to *tennesseensis* in having a median hair-free strip on the head, *tonsa* is much larger and does not have the long flat head of *tenesseensis*.

MEASUREMENTS—HL 0.31-0.39; HW 0.32-0.34; HI 83-94; SL 0.22-0.24; SI 65; EL 0.02; WL 0.42-0.46. (N = 9 from Alachua Co.).

STRUCTURAL CHARACTERS—Head longer than wide, rectanguloid with faintly convex sides, the posterior border slightly excised in the center. The head is slightly narrower anteriorly. The eyes are very small compared to most Florida species and are often hard to locate because eye coloration is the same as, or only slightly darker than,

the head. Ventral border of head moderately convex in profile. Anterior edge of clypeus widely and angularly separated from dorsal surface of mandible in profile.

Promesonotum of thorax weakly convex in profile, propodeal base somewhat more convex. Petiole large in profile with a prominent anteroventral tooth and prominent ventral swelling (Fig 31). From above, petiole and postpetiole nearly equal in width. Postpetiole with rounded sides as seen from above, not trapezoidal.

SCULPTURE—All surfaces smooth and shining except for head which is heavily and densely marked with prominent piligerous punctures and dorsum of the promesonotum which is moderately marked with weaker punctures. Head has characteristic median streak free of punctures.

PILOSITY—Head and thorax with numerous short hairs. Petiole, postpetiole, legs and gaster also with numerous short hairs which may be longer than those on the head (Fig. 32).

COLOR—Entirely light yellow to light yellowish brown.

DESCRIPTION OF FEMALE:

DIAGNOSIS—Large and dark with hyaline wings. Head distinctly trapezoidal in shape. Head and dorsum of thorax covered with numerous strong piligerous punctures. Most similar to *nickersoni* but its non-rectanular head and larger size set it apart from *nickersoni* and *picta* while the hyaline wings separate it from both *tenesseensis* and *nickersoni*. Largest dark female among the Florida species.

MEASUREMENTS—HL 0.72; HW 0.76-0.77; HI 106, SL 0.42-0.44; SI 59.4; EL 0.22-0.24; WL 1.44-1.46 (N = 2 from Leon and Alachua Counties).

STRUCTURAL CHARACTERS—Head distinctly trapezoidal, with nearly straight sides and hind border, sides of head distinctly convergent toward the clypeus. Scapes short, not reaching hind corners of head. Sublateral clypeal teeth easily seen beside each of the two more prominent submedian teeth.

Thorax slightly narrower than head. The sides of the scutum, from above, narrow posteriorly in nearly straight lines; the transcutal suture V-shaped. Petiole with blunt node, slightly excised above as seen from behind. Petiole, in profile, with a small posterior ventral tooth. Postpetiole wider than petiole and trapezoidal as seen from above, wider posteriorly.

SCULPTURE—All body parts smooth and shining except postpetiole and sides of petiole, which are covered with very fine granular punctation.

PILOSITY—Head and thorax with numerous hairs arising from strong punctures. Gastric pilosity also abundant but arising from less prominent punctures.

COLOR—Head including mandibles, thorax, petiole, postpetiole and gaster dark reddish brown, shading to lighter tones on ventral surfaces. Legs and antennae light brownish yellow. Wings hyaline.

DESCRIPTION OF MALE

DIAGNOSIS—Dark reddish brown with hyaline wings. Head distinctly trapezoidal with the greatest width across the eyes. Legs, mandibles and chitinous areas near mouthparts are whitish to light tan. Most similar to *abdita*, but distinguished by non-dusky wings, blunt knobs on the dorsum of the petiole and gradual color shading on the thorax. Largest dark male among the Florida species.

MEASUREMENTS—HL 039-0.42; HW 0.52-0.56; HI 132-135; FL 0.86-0.92; EL 0.22-0.24; WL 1.18-1.26 (N = 4 from Leon Co.).

STRUCTURAL CHARACTERS—Head trapezoidal, seen from above, and widest at the eyes. Ocelli prominent. Eyes occupy approximately 1/4 of total head width. Eyes longer than broad, narrowed and flattened toward top of the head.

Thorax, from above, tapers smoothly from pronotum to propodeum. Petiole with 2 trianular rounded knobs, one at each corner of the dorsum. Petiole narrower than postpetiole. Postpetiole from above nearly circular but flattened on the anterior face.

SCULPTURE—Entire propodeum, sides of petiole and postpetiole and sclerites surrounding the wings covered with granulose punctation. Remainder of body smooth and shining.

PILOSITY—Suberect clear hairs most prominent on dorsal body surfaces, particularily the thorax, but also on head, petiole and terminal segments of gaster.

COLOR—Body dark reddish brown. Thorax shades from dark brown dorsally to medium brown pleurites to light brown ventrally. Legs and antennae cream colored, shading to light brown on coxae and basal antennal segments. Wings hyaline.

TYPES—Holotype is a worker from Tall Timbers Research Station, Leon Co., Florida, collected June 1975 by M. A. Naves. Paratypes are remainder of the Leon Co. series including 2 females, 4 males and 3 workers. Additional paratype material includes numerous workers from Gainesville Airport area, Alachua Co., Florida, 16 June 1979, captured with baited subterranean trap by C. R. Thompson.

The holotype and several paratypes will be deposited in the Florida State Collection of Arthopods, Gainesville, Florida. Paratypes will also be deposited in MCZ and Los Angeles County Museum of Natural History (LACM).

ETYMOLOGY—The word "tonsa" is Latin for "shaven" and is dubbed upon this species because of the distinctive hairless vertical strip down the center of the worker's head.

DISCUSSION—This species has been found in Gainesville, Tall Timbers Research Station north of Tallahassee, and Orange Co. in central Florida. It is relatively common in Gainesville although not as abundant as *carolinensis*. This species may not be rare, but merely previously unrecognized.

Virtually nothing is known about *tonsa* biology. I have never collected sexuals of this species. I suspect that mating flights occur in late summer since the two females in my possession are fully sclerotized, have wings and bear the dates 15 August (swept from a soybean field) and 2 July (nest collected). They are probably day flyers since I have never taken them in light traps.

Curiously, the dense pilosity of this species led to its discovery. I noticed that workers in certain vials had many more dirt granules trapped in their hairs—which prompted a closer look and the new species discovery. This ant looks very much like a golden-haired pincushion under the microscope. This character was not used in the key, however, because of the perennial problems associated with the description of hair characteristics.

Solenopsis abdita NEW SPECIES
Figs. 1-4

DESCRIPTION OF WORKER

DIAGNOSIS—A small, pale species. Eyes somewhat small but darkly pigmented. General characters of workers very similar to *carolinensis*. There is no easy way to separate the workers of these two species. Measurements of HL, HW, SL, WL, EL etc. average smaller than for *carolinensis*, but fall within the lower *carolinensis* normal ranges. It has shorter, less-shiny pilosity than *carolinensis*, a smaller, rounder, darker eye, differently shaped promesopleural suture, and a more convex dorsal curvature to the thorax.

MEASUREMENTS—HL 0.34-0.39; HW 0.30-0.34; HI 92-94; SL 0.22-0.24; SI 58-67; WL 0.42-0.16, EL 0.03-0.03S (N = 12 from Alachua and Broward counties).

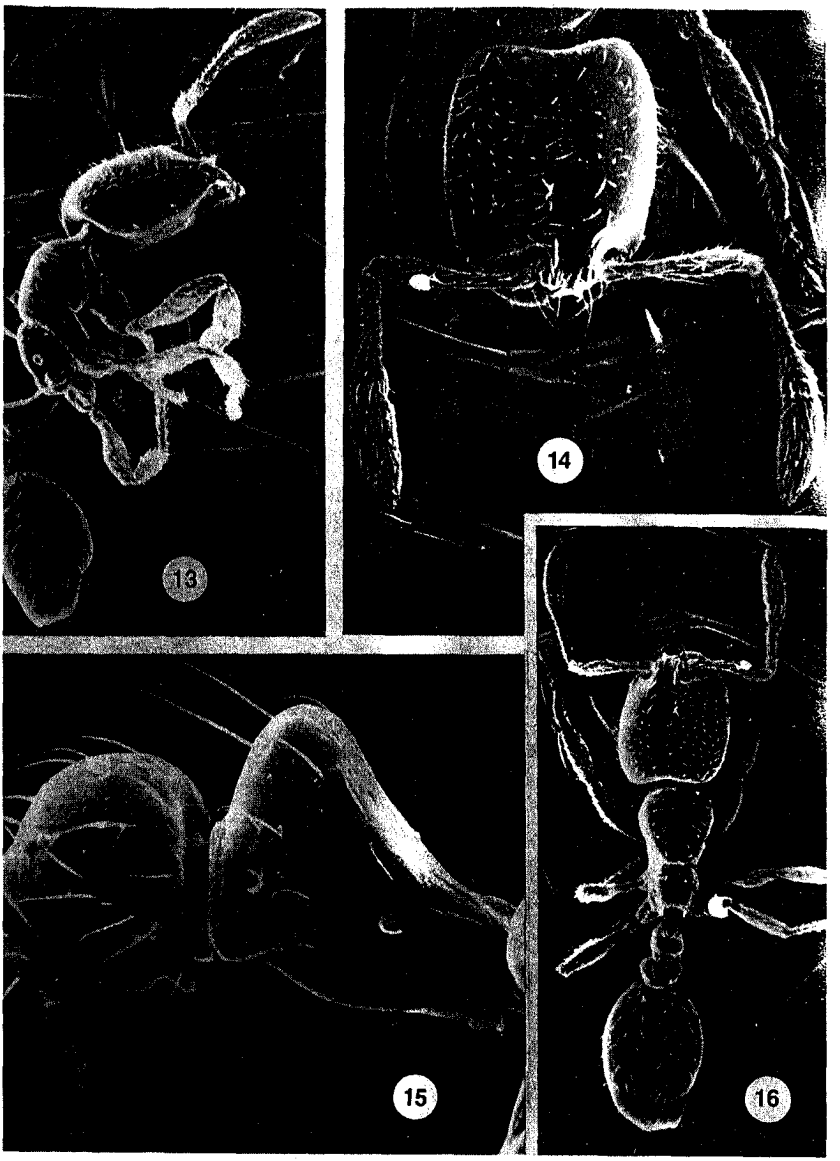

Plate 4. Worker of *S. nickersoni* Thompson (75X, 120X, 420X, 65X]

STRUCTURAL CHARACTERS—Head rectangular, longer than broad with weakly convex sides and slightly excised posterior border. Eyes nearly circular, somewhat small, but darkly pigmented. Ventral border of head moderately convex.

Promesonotum in profile somewhat angular anteriorly, then slightly convex to the metanotal groove. Propodeum smoothly rounded in profile without definite base or declivity; combines with promesonotum to form a curve that is not flattened at the

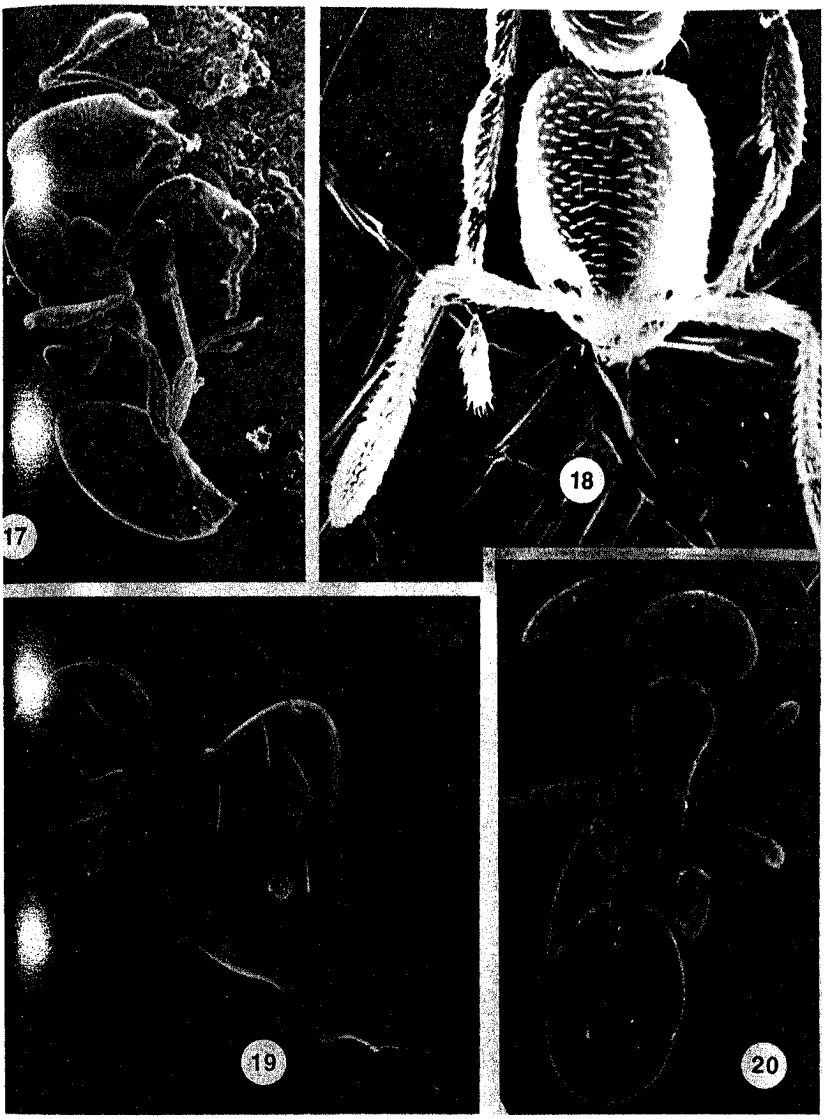

Plate 5. Worker of *S. pergandei* Forel (79X, 98X, 165X, 75X)

metonotal groove. Petiole in profile triangular with slightly rounded node and ventral swelling. Postpetiole noticeably wider than petiole when seen from above, weakly trapezoidal, and widest anteriorly.

SCULPTURE—Head with barely visible small punctures, these much stronger than on the thorax. Remainder of integment smooth and shining.

PILOSITY—Head, in profile, with moderate numbers of short hairs, thorax and gaster with fewer, sometimes longer hairs.

COLOR—Pale yellow-orange shading to darker reddish-orange on the gaster and at various sutures.

DESCRIPTION OF FEMALE

DIAGNOSIS: Small, and medium to dark brown with hyaline wings. Much smaller than the dark females of *tennesseensis*, *tonsa* and *nickersoni*. Most similar to *picta* but has a more robust thorax with a definite hump on the propodeum instead of a continuous curve, does not have a forward-placed petiolar node and has greater pilosity.

MEASUREMENTS—HL 0.52-0.56; HW 0.52-0.56; HI 93-104; SL 0.34-0.38; SI 65-69; EL 0.18; WL 0.91-1.03 (N = 11 from Alachua and Broward counties).

STRUCTURAL CHARACTERS—Head as long as broad with convex sides and straight or very slightly concave posterior border. Clypeal teeth weak. Eyes and ocelli small, ocelli not at all prominent but lying nearly flat to the head. Head distinctly more narrow behind than at eyes. Scapes short, not reaching posterior corners.

Thorax distinctly narrower than the head and nearly a perfect long oval with little or no widening at the wing insertions. Petiole with a high node, and without anteroventral teeth. Postpetiole, from above, wider than petiole and weakly trapezoidal with greatest width anteriorly.

SCULPTURE—Head with numerous well marked punctures. These are weaker but noticeable on the thorax.

PILOSITY—Head with numerous hairs, pilosity less abundant on thorax, petiole, postpetiole and gaster.

COLOR—Head including mandibles, thorax, petiole, postpetiole and gaster can be medium reddish brown to almost black. Legs and antennae shade from light tan to medium brown. Wings hyaline.

DESCRIPTION OF MALE

DIAGNOSIS—Small, and medium to dark brown with hyaline wings. As with the female, the male is also smaller than other dark Florida species, except *picta*. Not easily separated from *picta* but, as with the female, the node of the petiole is not forward-placed.

MEASUREMENTS—HL 0.38-0.40; HW 0.50-0.52; HI 125-135; FL 0.90-0.95; EL 0.20-0.22; WL 1.0-1.06 (N = 6 from Alachua Co.).

STRUCTURAL CHARACTERS—Head, excluding eyes, nearly square. Eyes occupy approximately 1/3 of total head width. Ocelli prominent. Eyes slightly longer than broad on the axis from mandible to lateral ocellus.

Thorax from above tapers smoothly from pronotum to propodeum. Corners of petiole sharp, angular and joined by a sharp and nearly straight ridge across. Petiole, from above, narrower than postpetiole and trapezoidal, with greatest width at the center. Postpetiole nearly circular from above.

SCULPTURE—Posterior 2/3 of thorax as well as petiole and postpetiole largely covered in granulate punctation. Remainder of integument smooth and shining.

PILOSITY—Moderate numbers of clear, suberect hairs present on all body areas, but most numerous on head.

COLOR—Uniform medium brown, but specimens from the Keys are uniformly dark brown, almost black. Legs and antennae very light tan. Wings hyaline.

TYPES—Holotype a worker from a large series of males, females and workers collected from a palm log, or subsequently reared by this colony, taken 26 April 1984 in Ft. Lauderdale, Broward Co., Florida, by C. R. Thompson.

The holotype and several paratypes will be deposited in the FSCA, with paratypes also deposited in MCZ and LACM.

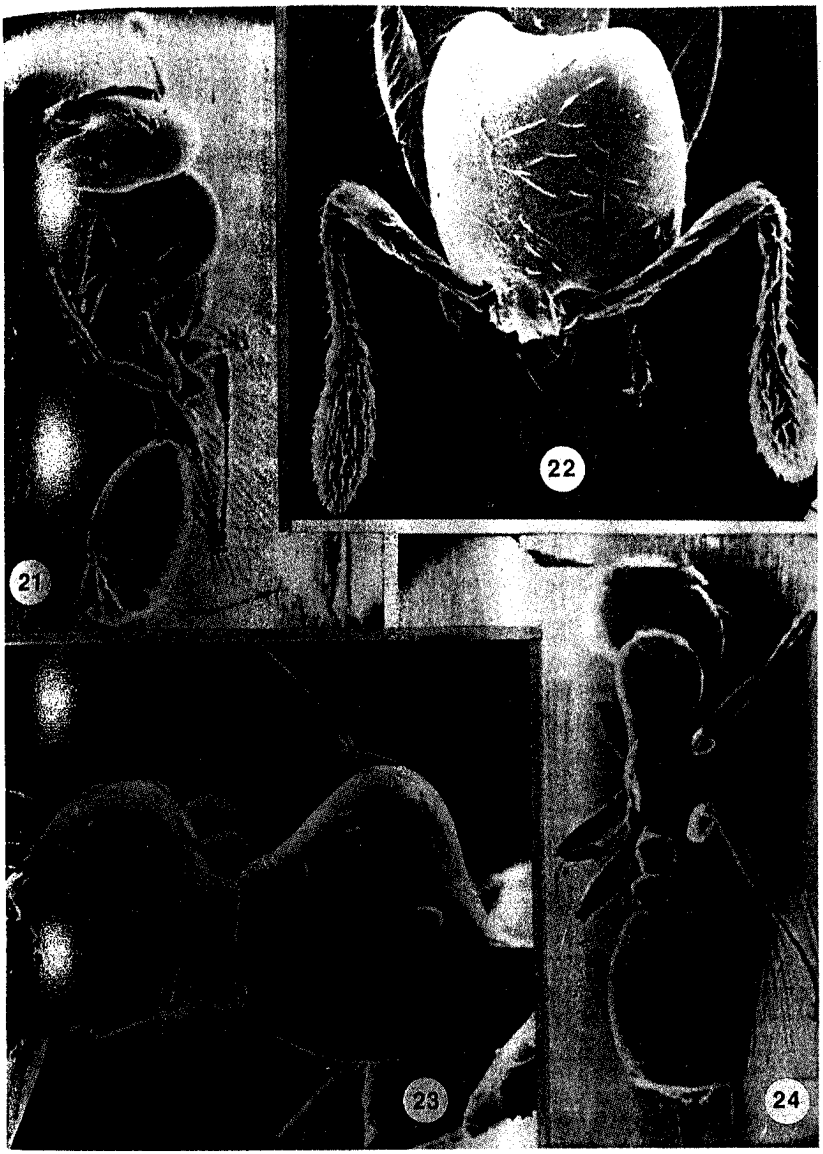

Plate 6. Worker of *S. picta* Emery (70X, 140X, 378X, 70X)
Photos by T. C. Carlysle

ETYMOLOGY—The word "abdita" is Latin for concealed or secret and is given to this species of the Florida thief ant complex because it so closely resembles the most comon species, *carolinensis*.

DISCUSSION—This species is widespread in Florida. It has been collected from 23 counties: Alachua, Broward, Collier, Dade, Highlands, Hillsborough, Lake, Lee, Levy, Manatee, Marion, Monroe, Nassau, Palm Beach, Pasco, Polk, Putnam, Santa Rosa,

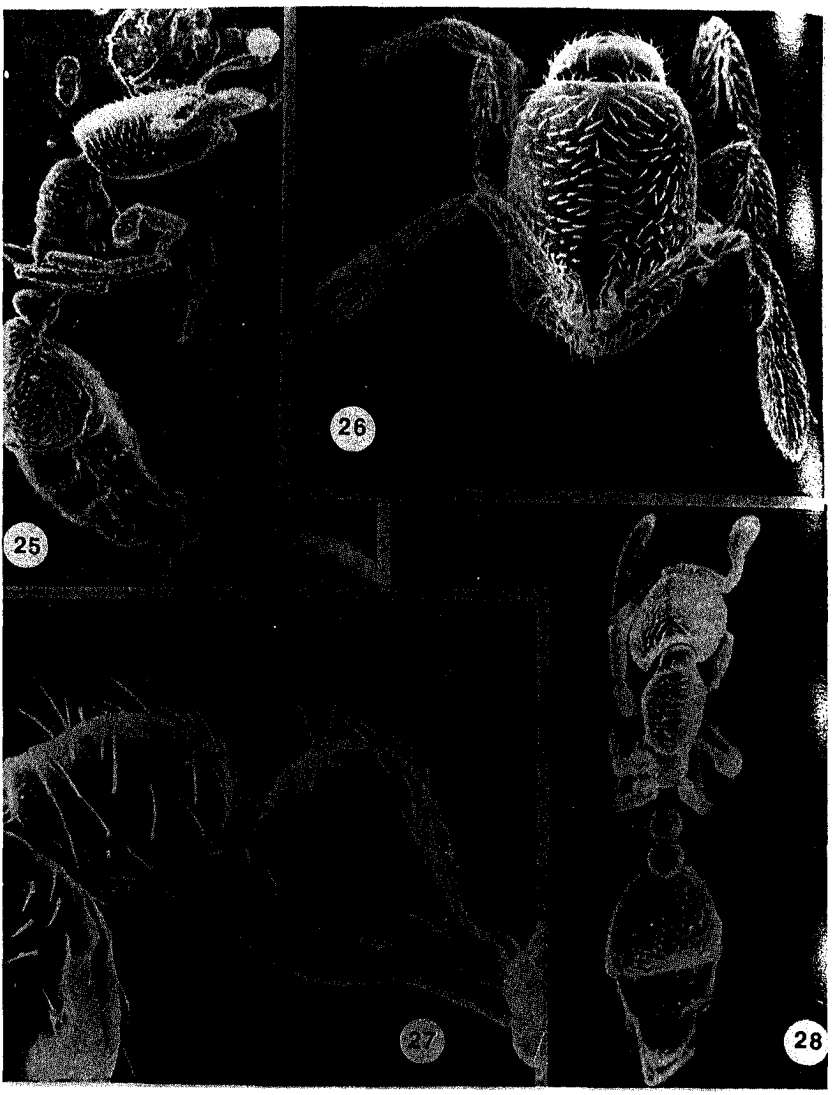

Plate 7. Worker of *S. tennesseensis* Smith (83X, 150X, 160X, 81X)

Sarasota, Seminole, Sumter, Volusia and Walton. Almost certainly, the great similarity of *abdita* to *carolinensis* prevented earlier discovery.

Very little is known about this new species. I collected a large colony in a rotted palm log (26 April 1984, Broward Co.) in semiswamp. This is a polygynous species: there were 8 queens in the colony. It is easily cultured in the laboratory and thrives on honey and dead insects. The 1981 palm log colony produced hundreds of females but only two males in August 1985. In July-August 1986 hundreds of males and females were produced. These exhibited preflight behavior late in the morning, and mated in

the laboratory, with numerous fertile females remaining amicably in the same container. I have not obtained laboratory mating with any other thief ant species. J. C. Trager collected *abdita* males at a Gainesville blacklight at 5:45 a.m. on 26 June 1980, and found sexuals and workers of this species beneath a stone at the edge of woods on 29 June 1980.

Solenopsis nickersoni Thompson

DESCRIPTION OF FEMALE

DIAGNOSIS—Easily separated from most other dark Florida thief ant females (*abdita, picta, tonsa*) by the dusky wings. If wingless, it can be separated from all the dark species by its much greater size which is easily determined by utilizing Weber's measurement of thorax length.

MEASUREMENTS—HL 0.60-0.64; HW 0.60-0.65; CI 97-104; SL 0.38-0.12; SI 64-68; EL 0.18-0.19; WL 1.16-1.22; HTL 1.76-1.86 (N = 6 from Highlands, Levy and Marion counties).

STRUCTURAL CHARACTERS—Head nearly square, narrowing slightly in front of the eyes, the posterior border slightly excised in the center. Eyes large and nearly circular. Area enclosed by the prominent ocelli is much darker than remainder of the head. Scapes not quite reaching hind corners of head.

Promesonotum of thorax weakly convex in profile, dorsum of propodeum slightly more convex. Thorax almost perfectly oval from above. Transcutal suture smoothly rounded. Petiole and postpetiole without prominent teeth or swellings. Postpetiole nearly circular, from above, and slightly wider than petiole while petiole has a slight indentation of the median dorsal border.

SCULPTURE—All surfaces smooth and shining except for numerous piligerous punctures. Punctures most numerous on dorsum of gaster. Posterior lower half of propodeum, upper 2/3 of petiole and all of postpetiole covered with punctations and slight striation.

PILOSITY—Entire body covered with thick-looking clear suberect hairs. Hairs arise from punctures and are most numerous on dorsum of head, thorax and gaster.

COLOR—Entirely medium reddish-brown with dusky wings.

DISCUSSION—This species has been collected from 13 counties scattered over Florida: Alachua, Collier, Gilchrist, Highlands, Indian River, Leon, Levy, Marion, Orange, Polk, Putnam, Sarasota, and Sumter. Despite this wide distribution, the species seems to be nowhere common.

Mating flights probably occur in midsumer since 2 winged specimens in my colletion are labeled 2 July. The worker of this species has been described (Thompson 1982); the male of *S.* (*D.*) *nickersoni* is the only unknown Florida thief ant taxa. I have never collected a colony in the field and the sexual forms are not attracted to lights.

Solenopsis corticalis Forel

Figs. 9-12

Solenopsis corticalis Forel, 1904. Ann. Soc. Entomol. Belgium 48:172.

TYPE LOCALITY—Cuba

TYPES—Museum d' Histoire Naturelle, Geneva, Switzerland. None in this country.

RANGE—West Indies and southern Florida

DIAGNOSIS—Small arboreal species. Head rectangular; eyes with unusual almond shape with dark facets at the corners and a light median area. Petiole with small anteroventral tooth. Hairs rather sparse, of uneven lengths and not arising from punctures. Integument highly shining.

COLOR: Yellow or light brownish-yellow, usually without trace of infuscation, or that present only on the gaster. Males and females are also yellow.

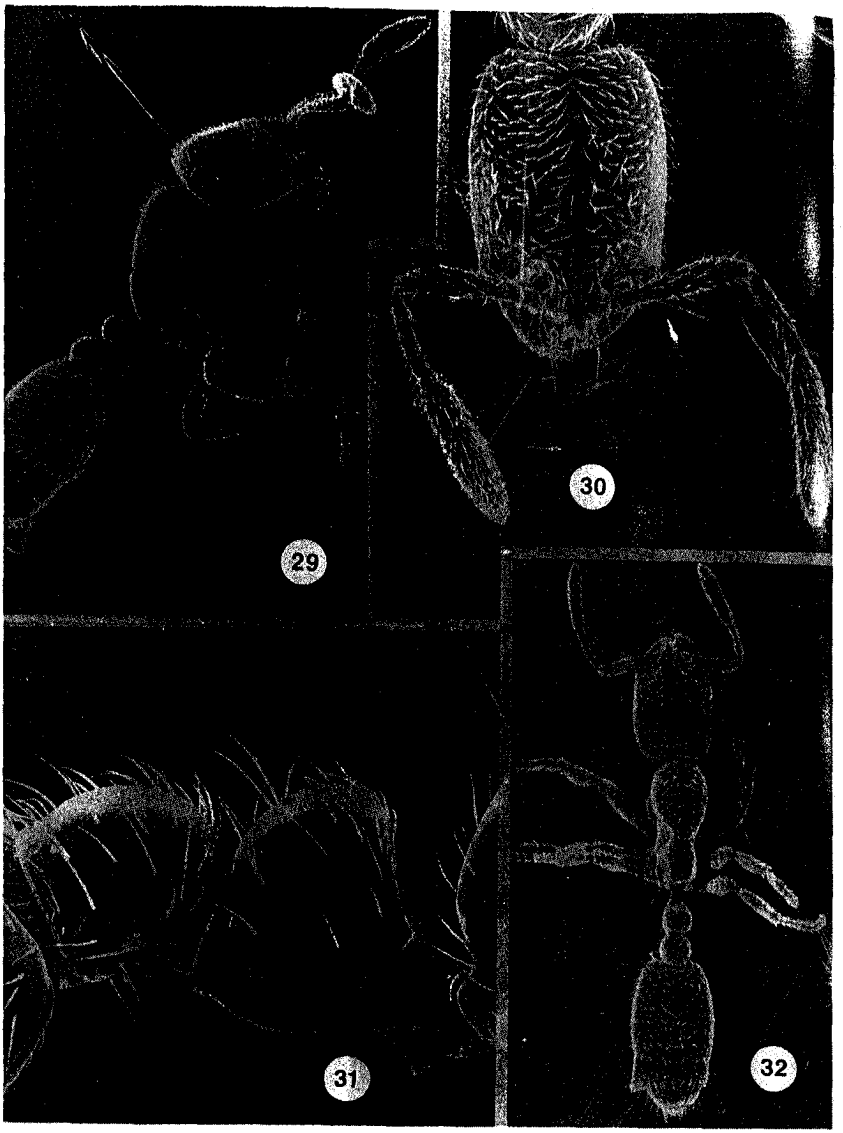

Plate 8. Worker of *S. tonsa* n. sp. 65X, 120X, 340X, 50X)

DISCUSSION—This is one of the two arboreal *Solenopsis* of Florida, but appears to have a much smaller geographic range than *picta* and is yellow whereas *picta* is black to reddish-brown. It is restricted to southern habitats, or more precisely, to the distribution of mangrove.

Although *S. corticalis* had not been previously reported from the United States, a series of this species was taken near Manalapan, a coastal town south of Palm Beach in November 1945 by Dr. William F. Buren. It was found in branches of red mangrove

(*Rhizophora mangle* L.). It was subsequently rediscovered by Dr. J. E. Nickerson in the same habitat in May 1980 on Park Key (Monroe Co.). It has also been found on Big Pine Key and No Name Key (Deyrup et al. 1988). This species is polygynous.

End Note

Contribution No. 689, Bureau of Entomology, Division of Plant Industry, Florida Dept. of Agriculture and Consumer Services, Gainesville, FL 32605.

References Cited

Baroni-Urbani, C. 1988. Über die eigenartige Morphologie der männlichen Genitalien des Genus *Diplorhoptrum* Mayr (Hymenoptera: Formicidae) und die taxonomischen Schlussfolgerungen. Z. Morph. Tiere 63: 63-74.

Bolton, B. 1987. A review of the *Solenopsis* genus-group and revision of Afrotropical *Monomorium* Mayr (Hymenoptera: Formicidae). Bull. British Mus. (Nat. Hist.) 51: 263-452.

Creighton, W. S. 1930. The New World species of the genus *Solenopsis* (Hymenoptera: Formicidae). Proc. American Acad. Arts Sci. 66: 39-151, VIII plates.

Creighton, W. D. 1950. The Ants of North America. Bull. Mus. Comp. Zool. 104: 1-585.

Deyrup, M. A., N. Carlin, J. Trager, and G. Umphrey. 1988. A review of the ants of the Florida Keys. Florida Entomol. 71: 163-176.

Etterhank, G. 1966. A generic revision of the world Myrmicinae related to *Solenopsis* and *Pheidologeton* (Hymenoptera: Formicidae). Australian J. Zool. 14: 73-171.

Smith, D. R. 1979. Superfamily Formicoidea, pp. 778-875, *in* Krombein, K. V. *et al.* (eds.), Catalog of Hymenoptera in America North of Mexico. Agric. Monogr. 2, Washington: Smithsonian Inst. Press.

Smith, M. R. 1965. House-infesting ants of the eastern United Sates. USDA-ARS Tech. Bull. 1326: 1-105.

Thompson, C. R. 1980. Monograph of the *Solenopsis* (*Diplorhoptrum*) of Florida. PhD. Dissertation. University of Florida.

Thompson, C. R. 1982. A new *Solenopsis* (*Diplorhoptrum*) species from Florida (Hym: Formicidae). J. Kansas Entomol. Soc. 55: 485-488.